

**Response of
Wisconsin Power and Light Company
to
The Public Service Commission of Wisconsin
Data Request No. 3.18**

Docket Number: 05-CE-137
Date of Request: March 11, 2009
Information Requested By: Ken Detmer
Date Responded: April 1, 2009
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Witness: (If other than Author)

Data Request No. 3.18:

Provide updated answer to the following question asked in the NED1, 2 FGD case: ND 01.19 In order to better understand CAIR/CAMR requirements; provide the annual emission limits in tons for NO_x, SO_x, and Hg on a WP&L system basis for future years. Show how the reductions were calculated.

Response:

Attachment 03.18 is a summary of how the WPL system emission limits are currently calculated for NO_x, SO_x and Hg. For NO_x and SO_x, the Clean Air Interstate Rule (CAIR) continues to be the driver for establishing Phase I emission limits beginning in 2009 and 2010 for NO_x and SO_x respectively and Phase II emission limits for NO_x and SO_x beginning in 2015. For NO_x, emission limits exist for both the annual and ozone season (May – September) periods.

While Wisconsin's Phase I NO_x allowance allocations are made on a one-time basis, this is not the case for Phase II. For the Phase II CAIR NO_x reduction requirements, the Wisconsin Department of Natural Resources (WDNR) state rule approach does not allow for direct calculation of the allowance allocations; rather, the unit baselines and associated allowance allocations will be updated on a periodic basis in accordance with the NR 432 rule requirements. Due to limited information available to estimate the impact of the WDNR's rule approach on WPL unit allowance allocations, WPL estimates the unit allowance allocations by reducing the Phase I allocation of each unit by the ratio of the Wisconsin statewide budgets for NO_x for Phase II compared to Phase I.

For Hg, the Clean Air Mercury Rule (CAMR) has been vacated. Given this, the Wisconsin Hg Rule, codified in NR 446, is the driver for establishing Hg emission limits beginning in 2010 with additional reductions required beginning in 2015.

WPL CAIR Allowance Allocation Estimates

Co.	FACILITY NAME	Unit ID	AE Share %	CAIR Status	WPL without Adjustment for Ownership Share						
					Acid Rain Phase 2 SO2 Allocation	Estimated CAIR Phase 1 (2010) Annual SO2 (TPY)	Estimated CAIR Phase 2 (2015) Annual SO2 (TPY)	CAIR Phase 1 (2009) Annual NOx (TPY)	Estimated CAIR Phase 2 (2015) Annual NOx (TPY)	CAIR Phase 1 (2009) Ozone Season NOx (TPY)	Estimated CAIR Phase 2 (2015) Ozone Season NOx (TPY)
WPL	Blackhawk	3	100%	Existing	-	-	-	9	8	7	6
WPL	Blackhawk	4	100%	Existing	-	-	-	8	7	7	6
WPL	Columbia	1	46.2%	Existing	15,512	7,756	5,429	3,035	2,529	1,407	1,172
WPL	Columbia	2	46.2%	Existing	8,772	4,386	3,070	2,920	2,433	1,385	1,154
WPL	Edgewater	3	100%	Existing	1,239	620	434	335	279	149	124
WPL	Edgewater	4	68.3%	Existing	10,415	5,208	3,645	1,563	1,303	740	617
WPL	Edgewater	5	75.0%	Existing	11,479	5,740	4,018	2,118	1,765	963	802
WPL	Neenah Energy Facility	1	100%	Existing	-	-	-	100	83	62	52
WPL	Neenah Energy Facility	2	100%	Existing	-	-	-	100	83	60	50
WPL	Nelson Dewey	1	100%	Existing	2,528	1,264	885	513	428	234	195
WPL	Nelson Dewey	2	100%	Existing	2,813	1,407	985	506	422	228	190
WPL	Rock River	1	100%	Existing	1,562	781	547	115	96	52	43
WPL	Rock River	2	100%	Existing	1,484	742	519	95	79	54	45
WPL	Rock River	3	100%	Existing	-	-	-	-	-	-	-
WPL	Rock River	4	100%	Existing	-	-	-	-	-	-	-
WPL	Rock River	5	100%	Existing	-	-	-	14	12	6	5
WPL	Rock River	6	100%	Existing	-	-	-	20	17	8	7
WPL	Sheepskin	1	100%	Existing	-	-	-	1	1	1	1
WPL	South Fond Du Lac	2	100%	Existing	39	20	14	24	20	14	12
WPL	South Fond Du Lac	3	100%	Existing	39	20	14	18	15	10	8
Total						27,941	19,559	11,494	9,578	5,387	4,489

WPL with Adjustment for Ownership Share						
Acid Rain Phase 2 SO2 Allocation	Estimated CAIR Phase 1 (2010) Annual SO2 (TPY)	Estimated CAIR Phase 2 (2015) Annual SO2 (TPY)	CAIR Phase 1 (2009) Annual NOx (TPY)	Estimated CAIR Phase 2 (2015) Annual NOx (TPY)	CAIR Phase 1 (2009) Ozone Season NOx (TPY)	Estimated CAIR Phase 2 (2015) Ozone Season NOx (TPY)
-	-	-	9	8	7	6
-	-	-	8	7	7	6
7,167	3,583	2,508	1,402	1,168	650	542
4,053	2,026	1,418	1,349	1,124	640	533
1,239	620	434	335	279	149	124
7,113	3,557	2,490	1,068	890	505	421
8,609	4,305	3,013	1,589	1,324	722	602
-	-	-	100	83	62	52
-	-	-	100	83	60	50
2,528	1,264	885	513	428	234	195
2,813	1,407	985	506	422	228	190
1,562	781	547	115	96	52	43
1,484	742	519	95	79	54	45
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	14	12	6	5
-	-	-	20	17	8	7
-	-	-	1	1	1	1
39	20	14	24	20	14	12
39	20	14	18	15	10	8
Total	18,323	12,826	7,265	6,054	3,410	2,841

Notes:

Wisconsin CAIR budget for Phase 1 Annual SO2 is estimated based on an allowance surrender ratio of 2:1, which is calculated by multiplying the Acid Rain Allocation by 50%.

Wisconsin CAIR budget for Phase 2 Annual SO2 is estimated based on an allowance surrender ratio of 2.83:1, which is calculated by multiplying the Acid Rain Allocation by 35%.

Wisconsin CAIR budget for Annual NOx for Phase 1 is 40,759 tons and Phase 2 is 33,966 tons - use this ratio to determine WDNR Phase 2 allocations.

Wisconsin CAIR budget for Ozone Season NOx for Phase 1 is 17,987 tons and Phase 2 is 14,989 tons - use this ratio to determine WDNR Phase 2 allocations.

Wisconsin CAIR NOx allocations (annual and ozone season) for Phase 1 based upon revised Wisconsin CAIR regulation (NR432) approved in June 2007.

CAIR is a market-based cap-and-trade program similar to the Acid Rain Program. Instead of placing emission limits on WPL or any specific unit, it allocates emission allowances.

WPL Mercury Emissions Limits (NR446)

Plant	Unit	% Own	Baseline (lbs)		40% Reduction from Baseline 2010 - 2014 (lbs)	
			100% Share	WPL Share	100% Share	WPL Share
Columbia	1	46.2%	320	148	192.00	88.70
Columbia	2	46.2%	300	139	180.00	83.16
Edgewater	3	100%	36	36	21.60	21.60
Edgewater	4	68.3%	161	110	96.60	65.98
Edgewater	5	75%	213	160	127.80	95.85
Nelson Dewey	1	100%	26	26	15.60	15.60
Nelson Dewey	2	100%	25	25	15.00	15.00
Rock River	1	100%	10	10	6.00	6.00
Rock River	2	100%	10	10	6.00	6.00
Total			1,101.00	663.15	660.60	397.89

Beginning in 2015, WPL coal-fired units (depending upon nameplate capacity), either on a stand-alone or grouped basis, must achieve one of the following:

- a 90% mercury reduction, as measured from the mercury content of the coal combusted
- a concentration of mercury emissions less than or equal to 0.008 pounds mercury per gigawatt-hour
- a level of mercury emissions defined as Best Available Control Technology (BACT)